

SAP BUSINESS TECHNOLOGY PLATFORM | EXTERNAL

Integration Guide

SAP S/4HANA Integration with SAP Build Process Automation for Credit Memo

Table of Contents

Table of Contents	2
Overview	3
Required SAP Business Technology Platform Services.....	5
Setup and Configuration.....	6
Configure Communication Scenarios in SAP S/4HANA.....	6
Configure Cloud Connector	6
Configure SAP S/4HANA to push Credit Memo Request Events to SAP Event Mesh	6
Import, Configure and deploy Integration Content	8
Import pre-packaged Integration content in SAP Integration Suite	9
HTTP Adapter Configuration	10

Overview

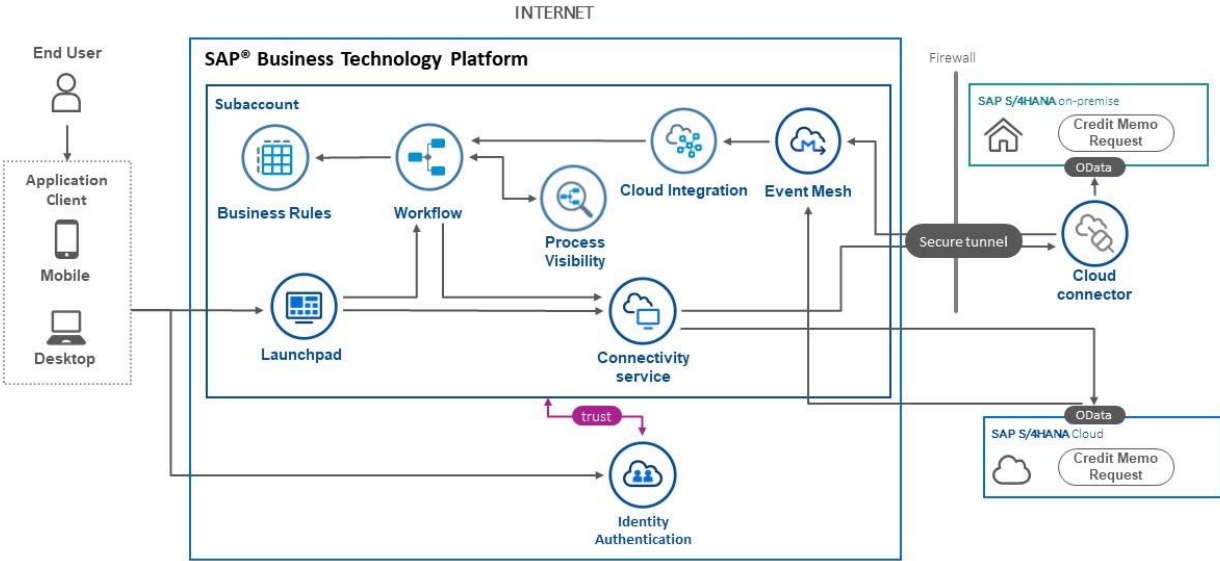
This document provides information about configuration steps to consume the live process package **Manage Credit Memo Request Approvals**. The primary audience of this document is technical IT / system administrators.

Manage Credit Memo Request Approvals content package for **SAP S/4HANA** automates Credit Memo Request Approvals in a flexible and transparent approach. It provides flexibility in executing a specific variant of the process depending on attributes such as total net amount, transaction currency etc. When a credit memo request is created in SAP S/4HANA and is configured for external approval, a pre-configured process variant is triggered in SAP Build Process Automation or SAP Workflow Management based on configurable business conditions. The credit memo request is either **Released** or **Rejected** based on the approvals and validations performed in the process.

Salient features of this content package are:

- Plug and Play with SAP S/4HANA without any additional development.
- Process steps delivered to approve a credit memo request
- Automatic email notification to parties involved.
- Business Rules provides flexibility in determining approver determination strategy and approvers
- Custom validation on credit memo request attributes using Business Rules.
- New variant of the process can be created using the pre-delivered process steps in a no-code / low-code approach
- Out-of-the-box visibility into key process performance indicators of the Sales Order

SAP S/4HANA – Manage Credit Memo Request Approvals



Required SAP Business Technology Platform Services

The live process content package **Manage Credit Memo Request** is intended to be used for SAP S/4HANA (on-premise and cloud) and requires the following services in SAP BTP:

- SAP Build Process Automation or SAP Workflow Management to orchestrate the process.
- SAP Integration Suite to push Credit Memo Request lifecycle events to Process Visibility Service. Credit Memo Request lifecycle events are pushed from SAP S/4HANA to Business Technology Platform through the Event Mesh configuration
- SAP Event Mesh
- SAP Connectivity service (cloud connector) to establish access to SAP S/4HANA on-premise.
- SAP Cloud Portal service or SAP Launchpad service to access the apps that are involved in the process.
- SAP Cloud Identity Services - Identity Authentication (optional).
- SAP Business Application Studio to modify/deploy the SAPUI5 applications.
- SAP BTP, Cloud Foundry runtime.

Setup and Configuration

This section will explain how to setup the integration content that is required for the live process content packages for managing Sales Order.

Configure Communication Scenarios in SAP S/4HANA

Following Communication Scenarios are needed to be configured in SAP S/4HANA or SAP S/4HANA Cloud to use the Manage Credit Memo Request Approvals content package.

SAP_COM_0158

Inbound Services consumed:

/sap/opu/odata/sap/API_CREDIT_MEMO_REQUEST_SRV

SAP_COM_0087

Inbound Services consumed:

/sap/opu/odata/sap/API_DIVISION_SRV

/sap/opu/odata/sap/API_DISTRIBUTIONCHANNEL_SRV

/sap/opu/odata/sap/API_SALESORGANIZATION_SRV

Follow the documentation on how to [Create Communication Arrangement](#) for Communication Scenario SAP_COM_0109. On similar lines, create the configuration for other communication scenarios as well.

Configure Cloud Connector

For SAP S/4HANA on-premise landscape, configure cloud connector to enable secure tunnel to SAP BTP tenant. Please refer the help documentation to [configure Cloud Connector](#).

Configure SAP S/4HANA to push Credit Memo Request Events to SAP Event Mesh

SAP Event Mesh can receive events from SAP S/4HANA (on-premise/cloud). Refer to the following guide to setup Event Mesh – [SAP Event Mesh](#)

The following blogs provide useful examples and information on how to use the Event Mesh.

SAP S/4HANA on-premise

<https://blogs.sap.com/2019/09/16/sap-enterprise-messaging-for-s4hana-on-premises/>

SAP S/4HANA cloud

<https://blogs.sap.com/2020/08/19/sap-s-4hana-cloud-enterprise-event-enablement-whats-new-with-cloud-2008/>

The following business events are required for the Credit Memo Request packages:

1. /sap/s4/beh/creditmemorequest/v1/CreditMemoRequest/Created/v1
2. /sap/s4/beh/creditmemorequest/v1/CreditMemoRequest/Changed/v1
3. /sap/s4/beh/creditmemorequest/v1/CreditMemoRequest/Deleted/v1

For the communication arrangement **SAP_COM_0158** in S/4HANA, go to application “**Enterprise Event Enablement**” and search for the channel of the communication arrangement. Open the channel and add the above topics as Outbound Topics.

Event Mesh Configurations

You need to maintain 2 queues which will call the respective Integration Flows

Go to the Event Mesh Cockpit and open the message client. Create the following queues. For each queue, under ‘Actions’ click on ‘Queue Subscriptions’ and add the Subscribed Topic names

Queue 1: Assign

(Suggested) Queue Name	Subscribed Topic Name	Endpoint (Webhook URL)
CREDITMEMO-CREATE-CHANGE	<namespace>/ce/sap/s4/beh/creditmemorequest/v1/CreditMemoRequest/Created/v1 <namespace>/sap/s4/beh/creditmemorequest/v1/CreditMemoRequest/Changed/v1	<a href="https://<iflow-url>/http/processCreditMemoReqChangedEvent">https://<iflow-url>/http/processCreditMemoReqChangedEvent
CREDITMEMO-DELETE	<namespace>/ce/sap/s4/beh/creditmemorequest/v1/CreditMemoRequest/ Deleted /v1	<a href="https://<iflow-url>/http/processCreditMemoReqDeletedEvent">https://<iflow-url>/http/processCreditMemoReqDeletedEvent

Create webhooks per queue.

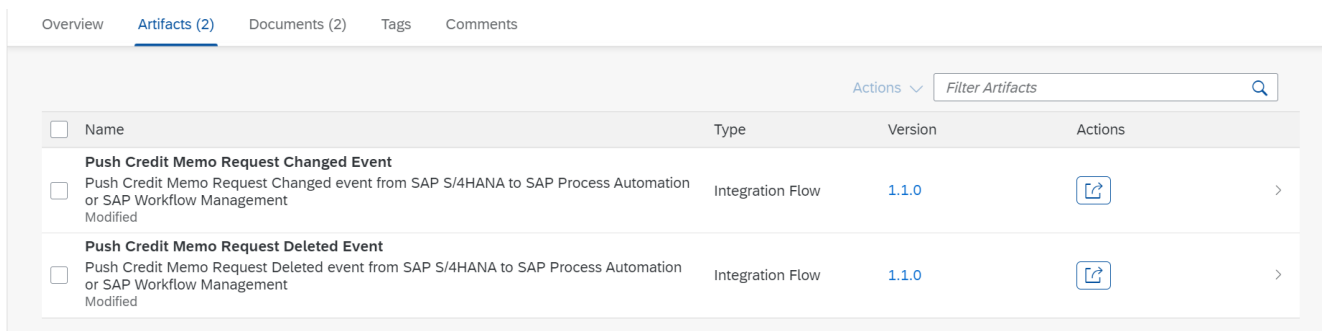
(Suggested) Subscription Name	Queue Name	Webhook URL	Handshake Status
CREDITMEMO-CREATE-CHANGE-EVENTS	<namespace>/CXT-CREDITMEMO-CREATE-CHANGE	https://<iflow-url>/http/processCreditMemoReqChangedEvent	Exempted
CREDITMEMO-DELETE	<namespace>/CXT-CREDITMEMO-CREATE-CHANGE	https://<iflow-url>/http/processCreditMemoReqDeletedEvent	Exempted

Once you create the Webhook, select Actions and then Trigger Handshake.

Note: At the end of this configuration, you will have the credit memo request events from SAP S/4HANA (on-premise or cloud) available in the queue created using SAP Event Mesh.

Import, Configure and deploy Integration Content

This workflow content requires the cloud integration to process the credit memo request in SAP S/4HANA. The integration content package **SAP S/4HANA Integration with SAP Build Process Automation for Credit Memo** is available in SAP API Business hub to integrate SAP Build Process Automation or SAP Workflow Management with SAP S/4HANA. Integration models use OData APIs to integrate with SAP S/4HANA. The following integration models are available in this package.



Import the content package to your SAP Integration tenant. To be able to import and deploy integration flows, you need the role **AuthGroup.IntegrationDeveloper** (in Neo environment) or **PI_Integration_Developer** (in cloud foundry environment) assigned in your tenant.

Import pre-packaged Integration content in SAP Integration Suite

- Access your SAP Integration Suite tenant management node (<https://<integrationtenant>/itspaces>).
- View all pre-packaged integration flow under Discover->Integration. (<https://<integrationtenant>/itspaces/shell/discover>)
- Search content package “SAP S/4HANA Integration with SAP Build Process Automation for Credit Memo”.
- Click on the package SAP S/4HANA Integration with SAP Build Process Automation for Credit Memo.
- Click Copy to import the Integration content package to your workspace.
- Navigate to the **Monitor** view (<https://<integrationtenant>/itspaces/shell/monitoring>) to setup the security materials required for the package.
- Deploy the following credentials using the **Security Material** app.
 - **VISIBILITY** – (OAuth2 Client Credentials) To push credit memo request events to process visibility capability of SAP Build Process Automation or SAP Workflow Management. ([help documentation to determine the process visibility service configuration parameters](#))

The screenshot shows the 'Edit OAuth2 Credentials' dialog box. The fields are as follows:

Name:	VISIBILITY
Grant Type:	Client Credentials
Description:	To push events to process visibility
Token Service URL:	https://...
Client ID:	...
Client Secret:
Client Authentication:	Send as Request Header

There is an unchecked checkbox for 'Include Scope:' and 'Deploy' and 'Cancel' buttons at the bottom right.

- **Workflow** – (OAuth2 Client Credentials) To start the approval workflows in SAP Build Process Automation or SAP Workflow Management ([help documentation to determine the workflow service configuration parameters](#)). Make sure that the workflow service instance was created with the following scopes - WORKFLOW_INSTANCE_GET, WORKFLOW_INSTANCE_START, WORKFLOW_INSTANCE_CANCEL.

Note: While using SAP Build Process Automation the credentials for both visibility and workflow are the same. There shall be only one credentials deployed and used for both the APIs.

- **S4HANA** – (User Credentials) To call the credit memo request APIs in SAP S/4HANA. Make sure that the user has the relevant communication scenarios as mentioned in section Configure Communication Scenarios in SAP S/4HANA.

Note: The credential names can be different from what is mentioned above. Make sure that you configure the appropriate credential names in the integration flow's HTTP adapter configuration.

HTTP Adapter Configuration

- Open the integration model *Push Credit Memo Request Changed Event*.
- Click **Configure** button, choose the appropriate receivers (workflow, process visibility or SAP S/4HANA) and set their respective API endpoint and credential names. Based on the services consumed, the API endpoints will be different.

For SAP Build Process Automation, the workflow APIs could be of format <https://<api-gateway-url>/public/workflow>, while the workflow APIs in SAP workflow management could be of format <https://<api.workflow>/workflow-service>

Similarly, For SAP Build Process Automation, the visibility APIs could be of format <https://<api-gateway-url>/public/visibility/runtime> , while the workflow APIs in SAP workflow management could be of format <http://<bpmpv-runtime-url>/pv-service>

- Go to the **More** tab and configure additional parameters:
 - **SalesOrderApprovalReasons** – This parameter is relevant when using Manage Credit Memo Request workflow package to enable external approvals for the Sales Order. Maintain a list of 'comma-separated' Sales Order Approval Reasons as configured in SAP S/4HANA, which requires an approval workflow in SAP BTP.

Configure "Push Credit Memo Request Changed Event"

Receiver	More
Type:	<input type="text" value="All Parameters"/>
SalesOrderApprovalR...:	<input type="text" value="ZBTP, ZLCO"/>

- Deploy the integration model.

Similarly, configure the *Push Credit Memo Request Deleted Event* integration models and deploy them.